

AMENDMENTS TO THE DRAWINGS:

The attached Replacement Sheets includes changes to designate FIGS. 18-20 as "Prior Art," as required by the Examiner.

Attachments: Replacement Sheets- FIGS. 18 and 19 (1 page), FIG. 20 (1 page).

REMARKS

In the Office Action, the Examiner¹ objected to FIGS. 18-20 of the drawings, and required that they be amended to include a legend designate these figures as "Prior Art." The Examiner objected to claim 11 because of informalities. The Examiner rejected claims 3 and 8 under 35 U.S.C. § 112, second paragraph; rejected claims 1, 3, 4, and 10 under 35 U.S.C. § 102(b) as being anticipated by Umematsu et al. (U.S. Patent No. 6,399,897, hereafter "Umematsu"); rejected claims 2 and 5 under 35 U.S.C. § 103(a) as being unpatentable over Umematsu; and rejected claim 8 under 35 U.S.C. § 103(a) as being unpatentable over Umematsu in view of Applicant's alleged admitted prior art (hereafter "AAPA"). The Examiner indicated² that claims 11 and 12 contains allowable material, and would be allowed if rewritten in independent form. Applicant has amended claims 1, 3, 8, and 11; and cancelled claim 5. Applicant thanks the Examiner for the indication of allowable material, but respectfully traverses the rejections.

With respect to the Amendments to the Drawings, Applicant has amended FIGS. 18-20 as required by the Examiner. Accordingly, Applicant respectfully requests that the Examiner withdraw the objection to FIGS. 18-20.

In the Amendments to the Claims, Applicant has amended claim 11 to correct an informality and respectfully requests that the objection to claim 11 be withdrawn.

¹ The Office Action contains a number of statements reflecting characterizations of the related art and the claims. Regardless of whether any such statement is identified herein, Applicant declines to automatically subscribe to any statement or characterization in the Office Action.

² Applicant notes that the Examiner indicated that claim 12, which depends from claim 11 is allowable in the cover sheet of the Office Action, but did not provide any further discussion of the allowable material within the Office Action. Applicant assumes the Examiner intended to allow claim 12 in light of the indicated allowable material of claim 11.

Applicant has also amended claims 3 and 8 as required by the Examiner. Applicant therefore respectfully requests that the Examiner withdraw the rejection of claims 3 and 8 under 35 U.S.C. § 112, second paragraph. In addition, Applicant has amended claim 1 to more clearly set forth the nature of the present invention.

The Examiner rejected 1, 3, 4, and 10 under claims 35 U.S.C. § 102(b) as being anticipated by Umematsu. In order to support a rejection under 35 U.S.C. § 102, each and every element of each of the claim in issue must be found, either expressly described or under principles of inherency, in that single reference. Furthermore, "[t]he identical invention must be shown in as complete detail as is contained in the ... claim." See M.P.E.P. § 2131, quoting *Richardson v. Suzuki Motor Co.*, 868 F.2d 1126, 1236, 9 U.S.P.Q. 2d 1913, 1920 (Fed. Cir. 1989). Applicant respectfully traverses the rejection, as the cited reference does not teach each and every element of independent claim 1.

Claim 1 recites "a semiconductor device," including "at least one electrode pad on which a wire is bonded." Applicant respectfully submits that Umematsu does not teach an electrode pad on which a wire is bonded.

The Examiner alleges that base electrode 31 taught by Umematsu corresponds to the "one electrode pad," recited in claim 1. (Office Action at page 3.) FIGS. 3A and 3B of Umematsu illustrate base electrode 31 (as described at column 4, lines 7 and 8), is connected to a ball electrode provided on flip chips (as described at column 3, lines 15 to 17). There is no teaching in Umematsu, however, of an "electrode pad on which a wire is bonded," (emphasis added) as recited in claim 1. Instead, Umematsu discloses that there "are provided a plurality of electrode pads (not shown) on which a plurality of

flip chips (two shown in FIG. 2) 18 are mounted via a plurality of ball electrodes 16," (column 3, lines 16-18).

Thus, Umematsu fails to each and every element of each of the claim, and claim 1 is allowable. Furthermore, claims 3, 4, and 10 depend from independent claim 1, and are therefore allowable at least due to their dependence. Accordingly, Applicant respectfully requests that that the Examiner reconsider and withdraw the rejection of claims 1, 3, 4, and 10 under 35 U.S.C. § 102(b).

The Examiner rejected claims 2 and 5 under 35 U.S.C. § 103(a) as being unpatentable over Umematsu. Applicant respectfully traverses the rejection.

To establish a *prima facie* case of obviousness, three basic criteria must be satisfied. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify a reference or to combine references. Second, there must be a reasonable expectation of success. Third, the prior art reference (or references when combined) must teach or suggest all of the claim elements. See M.P.E.P. § 2143. Moreover, the requisite teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in Applicant's disclosure. See *In re Vaeck*, 947 F.2d 488, 20 U.S.P.Q.2d 1438 (Fed. Cir. 1991). See M.P.E.P. § 706.02(j).

In addition, Applicant notes that Umematsu is the only reference relied upon by the Examiner for this particular rejection. The M.P.E.P. sets forth that

[t]he distinction between rejections based on 35 U.S.C. 102 and those based on 35 U.S.C. 103 should be kept in mind. Under the former, the claim is anticipated by the reference. No question of obviousness is present. In other words, for anticipation under 35 U.S.C. 102, the reference must teach every

aspect of the claimed invention either explicitly or impliedly. Any feature not directly taught must be inherently present. Whereas, in a rejection based on 35 U.S.C. 103, the reference teachings must somehow be modified in order to meet the claims. The modification must be one which would have been obvious to one of ordinary skill in the art at the time the invention was made. M.P.E.P. § 706.02(IV).

The M.P.E.P. clearly instructs that, for a proper 35 U.S.C. § 103 rejection, “the reference teachings must somehow be modified in order to meet the claims.” Id. Therefore, if the Examiner applies a 35 U.S.C. § 103(a) rejection based on Umematsu, he must articulate how Umematsu must be modified to supposedly teach each and every claim element. The Examiner does not explain how or why Umematsu must be modified, other than to make a generalized allegation that “[i]t would have been obvious for the dummy interconnection,” to be formed, “in a position corresponding to a displacement of a wire to be bonded to the electrode pad . . . because it depends,” on the size of the wire to be bonded (Office Action, pages 4-5).

Moreover, “[i]t is important for an examiner to properly communicate the basis for a rejection so that the issues can be identified early and the applicant can be given fair opportunity to reply.” M.P.E.P. § 706.02(j). The Examiner’s rejections are not properly communicated, as there is no explanation of why one of ordinary skill in the art at the time the invention was made would have been motivated to make the proposed modification to meet the elements of Applicant’s independent claims. The M.P.E.P. further instructs that,

[a]fter indicating that the rejection is under 35 U.S.C. 103, the examiner should set forth in the Office action:

- (A) the relevant teachings of the prior art relied upon, preferably with reference to the relevant column or page number(s) and line number(s) where appropriate,
- (B) the difference or differences in the claim over the applied reference(s),
- (C) the proposed modification of the applied reference(s) necessary to arrive at the claimed subject matter, and

(D) an explanation why one of ordinary skill in the art at the time the invention was made would have been motivated to make the proposed modification. Id., italics added.

In this rejection, the Examiner has not set forth “an explanation why one of ordinary skill in the art at the time the invention was made would have been motivated to make the proposed modification.” Id. Applicant therefore respectfully requests that the Examiner reconsider and withdraw the rejection under 35 U.S.C. § 103(a) of claims 2 and 5.

The Examiner rejected claim 8 under 35 U.S.C. § 103(a) as being unpatentable over Umematsu in view of AAPA. As previously discussed, the Examiner is required to provide a motivation to combine the references in the alleged manner. Applicant respectfully submits that the Examiner has not set forth the required motivation for one of ordinary skill in the art to select a low dielectric constant film with the claimed “20 GPa or less . . . Young’s modulus,” (emphasis added) as recited in claim 8. Applicant therefore respectfully requests that the Examiner reconsider and withdraw the rejection under 35 U.S.C. § 103(a) of claim 8.

In view of the foregoing amendments and remarks, Applicant respectfully requests reconsideration and reexamination of this application and the timely allowance of the pending claims.

Please grant any extensions of time required to enter this response and charge any additional required fees to our deposit account 06-0916.

Respectfully submitted,

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Dated: April 26, 2005

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